8-16, 20-24, 28-36, 42-51, 55-62, 64, 66, 67, and 68-75[1] under 35 U.S.C. §103 (a) as being unpatentable over Zafiroglu (U.S. 5,468,320) in view of Hall, Jr., et al. (U.S. 3,370,106).

Claim 1 is directed to a laminated structure comprising a non-woven substrate, at least one elastic strand, and a hot-melt adhesive bonding the non-woven substrate and elastic strand to one another. The hot-melt adhesive includes between about 50 and about 90 weight percent atactic polypropylene having a degree of crystallinity of less than about 20% and a number-average molecular weight between about 500 and about 40,000. The hot-melt adhesive also includes between about 5 and about 50 weight percent isotactic polypropylene having a degree of crystallinity of at least about 40% and a number-average molecular weight between about 3,000 and about 150,000. The hot-melt adhesive has a melt index between about 200 and about 1800 grams per 10 minutes and is hot-melt processable at less than about 450 degrees Fahrenheit.

Zafiroglu discloses a process for making form-fitting undergarments that may include structures for absorbing and containing body exudates. The garments are cut and seamed into rectangular or trapezoidal shapes from non-woven fabrics that have parallel rows of elastic threads, yarns, or strands. In one embodiment, the elastic strands may be attached to the substrate by stitching, intermittent gluing, continuous or intermittent thermal bonding, ultrasonic bonding, or hydraulic entanglement. Zafiroglu do not disclose any specific gluing agents suitable for use, and do not provide any further detail regarding gluing agents.

Hall Jr., et al. disclose a hot-melt adhesive suitable for

[1]Applicants note that claims 1-10, 13-30, 33-57, and 60-76 are currently pending.

bonding two materials together such as a corrugated paper medium and a 50-pound kraft paper facer sheet to produce corrugated paper board. The hot-melt adhesive is also suitable for the fabrication of paper cartons[2]. The adhesive composition comprises 60 to 95 weight percent atactic polypropylene and 5 to 40 weight percent polyethylene or isotactic polypropylene. The atactic polypropylene has a molecular weight of 15,000 to 60,000 and the isotactic polypropylene has a molecular weight of up to about 500,000, and preferably 85,000 to 95,000. Notably, the Examples set forth by Hall et al. deal solely with Kraft paper.

Hall Jr., et al. fail to disclose a non-woven substrate and an elastic strand as required by claim 1. Apparently recognizing the shortcomings of the references alone, the Office attempts to find each and every element of claim 1 through a combination of the Zafiroglu and Hall et al. references. Regardless of whether the combination of references shows each and every element of claim 1, such a combination is improper as discussed herein and cannot properly be made to reject claim 1, or any other pending claims.

As noted in applicants' earlier response, in establishing a *prima facie* case of obviousness to render a claim unpatentable, M.P.E.P. §2142 requires, *inter alia*, that the Office must show some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine reference teachings to arrive at applicants' claim. The mere fact that references can be combined or modified to arrive at the claimed subject matter does not render the resultant combination obvious, unless the

[2]In column 1, lines 36-38 Hall Jr., et al. disclose that the hot-melt adhesive composition may be used for bonding wood, paper, plastics, textiles, and other materials.

prior art also suggests the desirability of the combination.

Additionally, and significantly, M.P.E.P. §2143.01 requires that where the teachings of the prior art conflict, the Office must weight the suggestive power of each reference; the test for obviousness is what the combined teachings of the references would have suggested to one or ordinary skill in the art, and all teachings in the prior art must be considered to the extent that they are in analogous arts. Where the teachings of two or more prior art references conflict, the Office must weigh the power of each reference to suggest solutions to one of ordinary skill in the art, considering the degree to which one reference might accurately discredit another.

In the present rejection, the Office cites the Zafiroglu reference as showing a non-woven substrate bonded to an elastic member using an adhesive or gluing agent. This disclosure is similar to the disclosure of Wang, relied upon by the Office in the last rejections, which applicants have now overcome. A significant difference between Zafiroglu and Wang, is that Zafiroglu does not provide any discussion of what type of adhesive or gluing agent is appropriate for securing the elastic strand to the non-woven substrate, whereas Wang provides specific details on what types of gluing agents are suitable, as well as gluing agents that would not work; specifically those gluing agent set forth in the Hall et al. reference, which is once again improperly relied upon by the Office. The disclosure of Wang cannot simply be discounted by the Office; it must be fully analyzed and considered when judging the patentability of claim 1. Specifically, Wang discusses, in numerous paragraphs in columns three and four, the shortcomings and limitations of hot-melt adhesives comprising atactic and isotactic polymers in place of the flexible polyolefins (as claimed in claim 1). For

example, in column 3 lines, 37-47 Wang states that hot-melt adhesives comprising atactic polypropylene generally have poor cohesive strength, poor heat resistance, low elevated temperature peel and low shear values. Significantly, Wang further states:

> "[Atactic polypropylenes] have not found much use in disposable non-woven applications where a combination of high bond strength at very low coating weight and easy processability by spray techniques mentioned above is required. [Atactic polypropylene] based adhesives usually lack such capability" Column 3 lines 42-47.

Further, at column 4 lines 13-19 Wang states:

> "As noted above, [atactic polypropylenes] differ significantly from [flexible polyolefins] used in the present invention in both molecular structure, average molecular weight, physical and mechanical properties. **These prior art [atactic polypropylene] adhesives are formulated for applications other than for disposable non-wovens products and usually lack sprayability.** Emphasis added.

Additionally, at column 4 lines 55-60 Wang states:

> "The compositions of the present invention have overcome the shortcomings of the prior art amorphous poly-alpha-olefins and block copolymer based adhesives and provide excellent heat

stability, improved cohesive strength, low viscosity, and good adhesion to a variety of substrates and good processability with conventional coating equipment."

One skilled in the art and reading the Wang reference would actually be taught or guided away from claim 1 of the present invention and from looking at any reference that suggests or teaches a combination of atactic polypropylene and isotactic polypropylene as Hall Jr., et al. do.[3] Wang clearly sets forth the shortcomings of hot-melt adhesives comprising isotactic polypropylene and atactic polypropylene and specifically states that such compositions are formulated for applications other than for disposable non-woven products because such compositions lack basic characteristics required for suitable use, such as thermal stability and cohesive strength. Because Wang teaches squarely away from the teachings in Hall Jr., et al. of a hot-melt adhesive comprising atactic polypropylene, one skilled in the art would not, and could not, have been properly motivated to look at the Hall et al. reference after reading the Wang reference. No disclosure, or teaching in the Zafiroglu reference suggests otherwise, as Zafiroglu fails to discuss any requirement for a gluing agent.

As required by M.P.E.P. §2143.01, the Office must consider the teachings of the Wang reference when considering the patentability of claim 1. Wang teaches that the types of hot melt adhesives disclosed by Hall et al. are not suitable for use

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[3]Applicants note that a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983).

with the materials claimed in claim 1. This is specifically set forth in Wang in numerous places as noted herein. Notably, the Office fails to supply any art or teaching that a hot melt adhesive as set forth in Hall et al. is suitable for use in bonding an elastic member to a non-woven; the Office simply cites another reference where a gluing agent may be used to bond a non-woven substrate and an elastic member that does not discuss suitable, or non-suitable, adhesives. It is a stretch to state that the art of record even conflicts; actually the art of record (Wang) teaches squarely away from using the hot melt adhesives of Hall et al. for bonding the materials of claim 1. The only art of record supporting a contention that the Hall et al. adhesive is suitable is a single statement in the Hall et al. reference which states, in a laundry list of uses, that textiles are suitable for bonding with the Hall et al. adhesive. And, although the dictionary definition of "textile" does not include non-wovens, the Office has cited a textbook where "textile" includes non-wovens.

When viewed objectively, the art clearly shows that a combination including the Hall et al. reference is improper; whether it is combined with the Wang reference as before, or the Zafiroglu reference as in the current action. Because the Office must consider the suggestive power of all of the art of record, and not use improper hindsight, the combination of references as made by the Office is not proper and claim 1 is patentable.

With all due respect, it appears that the Office has used improper hindsight analysis and reconstruction when combining the Zafiroglu and Hall, Jr., et al. references. The Federal Circuit has repeatedly cautioned against hindsight analysis and held that such practice is improper. Grain Processing Corp. v. American-Maize-Products, Co., 840 F.2d 902, 904 (Fed. Cir. 1988).

Claims 2-4, 8-10, 13-16 and 20 depend from claim 1 and are patentable for the same reasons as claim 1, as well as for the additional elements they require.

Claim 21 is directed to a laminated structure comprising a first non-woven elastic substrate, a second non-woven substrate and a hot-melt adhesive bonding the first non-woven elastic substrate and the second non-woven substrate to one another. The hot-melt adhesive includes between about 50 and about 90 weight percent atactic polypropylene having a degree of crystallinity of less than about 20% and a number-average molecular weight between about 500 and about 40,000. The hot-melt adhesive also includes between about 5 and about 50 weight percent isotactic polypropylene having a degree of crystallinity of at least about 40% and a number-average molecular weight between about 3,000 and about 150,000. The hot-melt adhesive has a melt index between about 200 and about 1800 grams per 10 minutes and is hot-melt processable at less than about 450 degree Fahrenheit.

Claim 21 is similar to claim 1 and is patentable for the same reasons as claim 1 set forth above, as well as for the additional elements it requires.

Claims 22-24, 28-36, and 42-47 depend from claim 21 and are patentable for the same reasons as claim 21, as well as for the additional elements they require.

Claim 48 is directed to a laminated structure comprising a first elastomeric substrate, a second substrate and a hot-melt adhesive bonding the first elastomeric substrate and second substrate to one another. The hot-melt adhesive includes between about 50 and about 90 weight percent atactic polypropylene having a degree of crystallinity of less than about 20% and a number-average molecular weight between about 500 and about 40,000. The hot-melt adhesive also includes between about 5 and about 50

weight percent isotactic polypropylene having a degree of crystallinity of at least about 40% and a number-average molecular weight between about 3,000 and about 150,000. The hot-melt adhesive has a melt index between about 200 and about 1800 grams per 10 minutes and is hot-melt processable at less than about 450 degree Fahrenheit. Claim 48 is similar to claim 1 and is patentable for the same reasons as claim 1 as well as for the additional elements it requires.

Claims 49-51, 55-62, 64, 66, 67, and 68-75 depend from claim 48 and are patentable for the same reasons as claim 48, as well as for the additional elements they require.

2. Rejection of Claims 17-19, 37-41, 63 and 65 Under 35 U.S.C. §103(a)

Reconsideration is requested of the rejection of claims 17-19, 37-41, 63 and 65 under 35 U.S.C. §103 (a) as being unpatentable over Zafiroglu (U.S. 5,468,320) in view of Hall, Jr., et al. (U.S. 3,370,106) and further in view of Meece et al. (2002/0039637).

Claims 17-19 depend from claim 1 and are patentable for the same reasons as set forth above, as well as for the additional elements they require.

Claims 37-41 depend from claim 21 and are patentable for the same reasons as set forth above, as well as for the additional elements they require.

Claims 63 and 65 depend from claim 48 and are patentable for the same reasons as claim 48, as well as for the additional elements they require.

3. Rejection of Claims 5-7, 25-27, and 51-54 Under 35 U.S.C. §103(a)

Reconsideration is requested of the rejection of claims 5-7, 25-27, and 51-54 under 35 U.S.C. §103 (a) as being unpatentable over Zafiroglu (U.S. 5,468,320) in view of Hall, Jr., et al. (U.S. 3,370,106).

Claims 5-7 depend from claim 1 and are patentable for the same reasons as set forth above, as well as for the additional elements they require.

Claims 25-27 depend from claim 21 and are patentable for the same reasons as set forth above, as well as for the additional elements they require.

Claims 51-54 depend from claim 48 and are patentable for the same reasons as claim 48, as well as for the additional elements they require.

In view of the above, applicants respectfully request favorable reconsideration and allowance of all pending claims. The Commissioner is hereby authorized to charge any fee deficiency in connection with this Letter to Deposit Account Number 19-1345 in the name of Senniger, Powers, Leavitt & Roedel.

Respectfully Submitted,

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CMG/dmt